484 501 distances along or parallel to navigable streams rather than using canoes although these were available. All the inhabited places, as well as those frequented for any other purpose, are linked by well defined trails which are as permanent and as well known to the natives as our highways are to us. There are also long trails, their "through highways" or "interstate thoroughfares," that connect with the regions of other tribal groups, for instance to the Gran Sabana and to the Maquiritares country.

In the sabanas these trails are self-made and are marked by absence of vegetation along the narrow track, which has a bare and usually hard and perfectly smooth bottom and soon becomes sunk a few centimeters below the level [481] of the surrounding soil. They are very narrow. Even a main trail may be only fifteen or twenty centimeters wide, because the Indians always walk in single file and place one foot exactly in front of the other, so that the width of the trail is little more than the width of the foot. So ingrained is this habit that even when walking only a few meters two Indians never walk side by side. On 484 521 the march they frequently carry on animated conversations with each other without turning their heads or appearing to address each other, a habit carried over to some extent into other circumstances so that it is rather uncommon for them deliberately to face each other for conversational purposes — a habit striking and sometimes disconcerting to the civilized visitor.

487 Trails through forest are equally visible although commonly floored with [412] leaves and twigs, which are not purposely removed. Interfering brush and branches are lopped off with machetes, leaving a passage where it is always possible to walk upright.

484 Swamps that cannot easily be avoided are crossed with the aid of bridges 491 (Figs. 69, 70) or commonly on a chain of large moriche palm (kwai-ɣ) 499 trunks. These trees are abundant in swampy situations and commonly a com- [824] plete causeway can be made simply by felling them in the desired direction, so that the head of one falls near the stump of the next. The heavy trunks are not transported for this purpose. Gaps are filled in with smaller, readily carried logs and sticks or with the heavy bases of moriche leaves and the latter may be used alone for traversing short stretches of boggy ground without open water.

Streams may simply be forded if the bottom is hard and (as is true of all the streams of the central area) there are no dangerous fishes or reptiles, but even under these circumstances much traveled trails usually have bridges over small streams, up to five meters or so in width, and these are almost always provided if the bottom is of deep mud. The simplest and commonest bridge is simply a tree trunk, or frequently two laid parallel. Sometimes a small pole is lashed at the ends to standing trees on the two banks, or put in crotches of 484 these, to serve as a handrail. Nordenskiöld (1930, Appendix 4) has given some 491 interesting comments on South American Indian bridges and a distribution map, 171 in connection with which it is notable that I observed no liana bridges and no

484 use of handrails at fords (without a log bridge). Having canoes, the Kamara-
491 kotos do not require long bridges and they belong to the northeastern pole-
171 bridge area of Nordenskiöld's map. liana bridges especially typifying north-western South America, where navigation is less commonly understood, while complex cantilever bridges are confined to the central Andes.

●499 Occasionally more complex, well supported, but still typically pole bridges are built, like that shown in Fig. 70, with the foot poles, always two in such more elaborate structures, laid on transverse supports which are fixed in place by piles. This particular bridge illustrates all three methods of support on piles. At one end the transverse element is simply wedged between plain piles and the rising bank. At the other end this piece is laid in notches in the tops of the piles. In the middle it is most firmly held, on steps in three piles, two on one side and one, in the middle, on the other, so that motion downward or in a horizontal plane is quite impossible. The elements are not lashed together, the foot poles being sufficiently secured by the bedding of the ends in the soft earth of the stream banks and at one end by a simple transverse piece that keeps them from sliding longitudinally into the bank. I did not see or hear of any lashed bridges, longer than a single pole, such as Koch-Grünberg reports for the Taurepánes (1923, Vol. III, Fig. 6).

501 Streams too large to bridge conveniently with poles or felled trees are
484 forded or swum if need be, but preferably crossed by canoe. The use of the canoe for longitudinal carrying is not unknown, but its usual function in this
[487] area is simply as a ferry. For instance, at Uruyén, where the main trail up and down the Kamarata valley crosses the Aichá, a canoe is kept as a ferry and seldom used for any other purpose, although the stream is fordable.

501 The Taurepánes and some other Arekunas use bark canoes, the so-called
[184] woodskins (see Koch-Grünberg, 1923, Vol. III, Fig. 5; Roth, 1924, pp. 615-617). The Kamarakotos are well within the northern part of the distribution of woodskins (see Nordenskiöld 1924, Map 22) and they are aware of these vessels, but none appear now to be in use at least in the central group, where canoes are, in any case, rare and a luxury rather than a necessity. The few canoes now in use here are dugouts, simple but graceful in form, see Figs. 71, 72, of a single piece of wood except for the transverse braces or stretchers which also serve as seats. The ends are tapered and turn up, not closed by a separate piece of wood as in some Makuchi dugouts (Roth 1924, Plate 178A and B).
[192] Kamarakotos call embarkations in general kan.wa (or kanhwa, i.e. canoe) and this particular sort of dugout kuryara, showing the Carib root whence come the Spanish "curiara" and English "corial," but as their canoes are corials, the two words are essentially synonymous for them. They more often use the word
[824] kuryara. The favorite wood is waidawan-yé?, probably a species of Nectandra.
[171] Roth notes that this (or a closely related) tree is also considered by the Arawaks to be best for dugouts.

[Text continues on p. 212]

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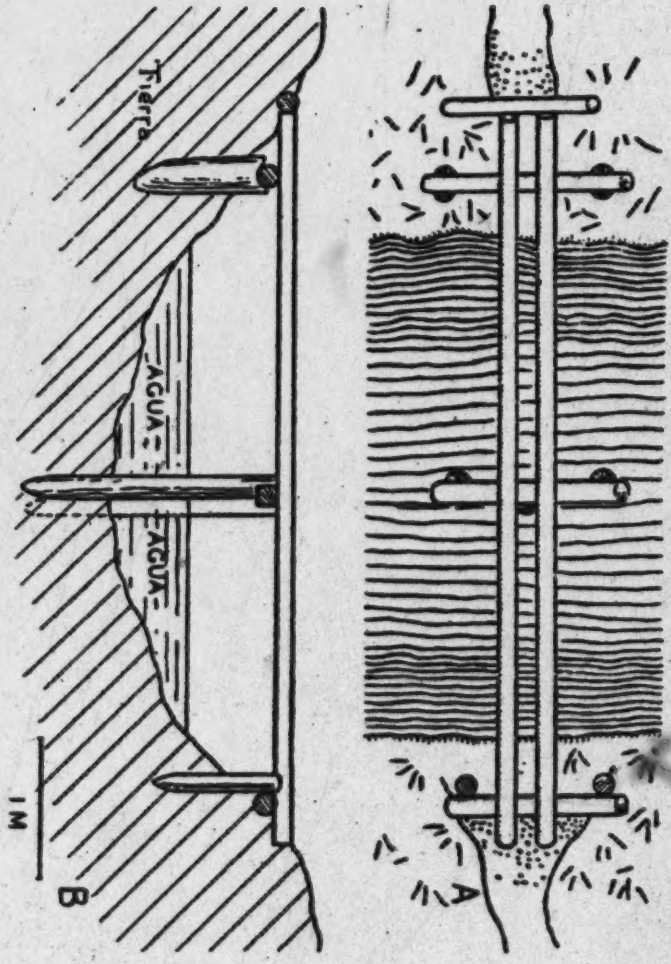

Fig. 70 — Kamarakoto Bridge.
Diagrams of the construction of a bridge similar to that of Fig. 69.
A, plan. B, side view, with earth sectioned.